

1 **CLAIMS**

2 **1.** A Web server input string screening method comprising:
3 determining an attack pattern that can be used to attack a Web server;
4 defining a search pattern that can be used to detect the attack pattern, the
5 search pattern being defined in a manner that permits variability among its
6 constituent parts,
7 receiving an input string that is intended for use by a Web server;
8 evaluating the input string using the search pattern to ascertain whether the
9 attack pattern is present; and
10 implementing a remedial action if an attack pattern is found that matches
11 the search pattern.

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13 **2.** The Web server input string screening method of claim 1, wherein:
14 said defining comprises defining a plurality of different search patterns; and
15 said evaluating comprises evaluating the input string using said plurality of
16 different search patterns.

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18 **3.** The Web server input string screening method of claim 1, wherein the
19 search pattern is specified as a regular expression.

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21 **4.** The Web server input string screening method of claim 1, wherein
22 said receiving of the input string comprises receiving a URL.
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1 5. The Web server input string screening method of claim 1, wherein
2 said receiving of the input string comprises receiving a portion of an HTTP verb
3 request.

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5 6. The Web server input string screening method of claim 1, wherein
6 said implementing comprises denying a request that is associated with the input
7 string.

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9 7. A Web server input string screening method comprising:
10 defining one or more search patterns that comprise literal characters and
11 special characters, wherein the literal characters indicate exact characters in an
12 input string that is intended for receipt by a Web server, and the special characters
13 indicate variable characters in an input string that is intended for receipt by the
14 Web server, the search patterns being usable to search for an attack pattern that
15 can be used to attack the Web server; and

16 storing the one or more search patterns in a memory location that is
17 accessible to a screening tool for evaluating an input string that is intended for
18 receipt by the Web server.

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20 8. The Web server input string screening method of claim 7 further
21 comprising:

22 retrieving a search pattern from the memory location; and
23 evaluating an input string with the screening tool by ascertaining whether
24 the input string includes at least a portion that matches the search pattern.
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1 9. The Web server input string screening method of claim 8, wherein the
2 evaluating of the input string comprises evaluating a URL.

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4 10. The Web server input string screening method of claim 8, wherein
5 the evaluating of the input string comprises evaluating a portion of an HTTP verb
6 request.

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8 11. The Web server input string screening method of claim 7 further
9 comprising implementing the screening tool as an extension for an existing Web
10 server.

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12 12. The Web server input string screening method of claim 7 further
13 comprising implementing the screening tool as an ISAPI extension.

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15 13. A Web server input string screening method comprising:
16 defining one or more search patterns that are specified as a regular
17 expression, the search patterns being usable to search for an attack pattern that can
18 be used to attack the Web server; and

19 storing the one or more search patterns in a memory location that is
20 accessible to a screening tool for evaluating an input string that is intended for
21 receipt by the Web server.

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23 14. The Web server input string screening method of claim 13 further
24 comprising:

25 retrieving a search pattern from the memory location; and

1 evaluating an input string with the screening tool by ascertaining whether
2 the input string includes at least a portion that matches the search pattern.

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4 **15.** The Web server input string screening method of claim 14, wherein
5 the evaluating of the input string comprises evaluating a URL.
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7 **16.** The Web server input string screening method of claim 14, wherein
8 the evaluating of the input string comprises evaluating a portion of an HTTP verb
9 request.
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11 **17.** A computer-readable medium having computer-readable
12 instructions thereon which, when executed by a computer, perform the method of
13 claim 14.
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15 **18.** A Web server input string screening tool comprising:
16 a pattern matching engine that is configured to receive an input string that
17 is intended for use by a Web server and evaluate the input string to ascertain
18 whether it likely constitutes an attack on the Web server; and
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20 one or more patterns that are usable by the pattern matching engine to
21 evaluate the input string, the patterns being defined in a manner that permits
22 variability among the constituent parts of the one or more patterns.
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24 **19.** The Web server input string screening tool of claim 18, wherein the
25 one or more patterns are specified as regular expressions.

1 20. The Web server input string screening tool of claim 18, wherein the
2 pattern matching engine is configured to receive an input string that comprises a
3 URL.

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5 21. The Web server input string screening tool of claim 18, wherein the
6 pattern matching engine is configured to receive an input string that comprises a
7 portion of an HTTP verb request.

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9 22. One or more computer readable media having computer-readable
10 instructions thereon which, when executed by a computer perform the following
11 steps:

12 receiving an input string that is intended for use by a Web server;

13 evaluating the input string using a search pattern to ascertain whether the
14 input string contains an attack pattern that can be used to attack the Web server,
15 the search pattern comprising literal characters and special characters, wherein
16 literal characters indicate exact characters in the input string, and the special
17 characters indicate variable characters in the input string; and

18 implementing a remedial action if an attack pattern is found that matches
19 the search pattern.

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21 23. The computer-readable media of claim 22, wherein said
22 implementing comprises denying a request that is associated with the input string.
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1 24. The computer-readable media of claim 22, wherein said receiving
2 comprises receiving a URL.

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4 25. The computer-readable media of claim 22, wherein said receiving
5 comprises receiving an input string that is associated with an HTTP verb request.

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7 26. A collection of Web server screening patterns comprising:
8 a memory; and
9 a plurality of patterns stored in the memory, the patterns being useable to
10 screen input strings that are intended for use by a Web server, individual patterns
11 being defined in a manner that permits variability among their constituent parts.

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13 27. The collection of claim 26, wherein the patterns are specified as
14 regular expressions.

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16 28. The collection of claim 26, wherein the collection is adapted for
17 addition to, deletion of, or modification of patterns.

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19 29. The collection of claim 26, wherein the patterns are configured for
20 use in screening URLs that are intended for use by a Web server.

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22 30. The collection of claim 26, wherein the patterns are configured for
23 use in screening input strings associated with HTTP verb requests that are
24 intended for use by a Web server.
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